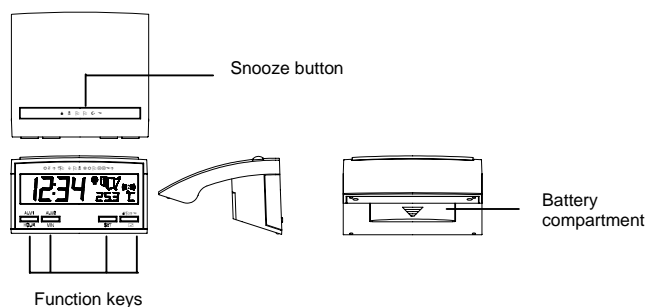


# Atomic Alarm Clock

## Instruction Manual

### Introduction:

Congratulations on purchasing the Atomic Alarm Clock with WWVB Radio controlled time, calendar, 12/24 hours display, time zone with US map, indoor temperature and two alarms settings. This innovative product is ideal for home or office use. Please read this instruction manual to enjoy the full benefits of all the features.

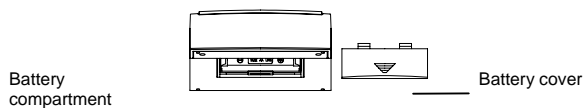


### Features:

- WWVB Radio controlled time with manual setting option
- 12/24 hour time display
- Time zone with USA map (Pacific Time(-8h); (Mountain Time (-7h); Central Time (-6h); Eastern Time(-5h) or GMT
- Automatic or manual ON/OFF daylight saving time
- Indoor temperature reading (°C/°F user selectable)
- 2 alarm times (crescendo and normal sounding alarms)
- snooze interval setting (from 1 to 59 minutes)
- Calendar display (weekday/month/date or month/ date/year)
- LCD back-light

### Setting up the Atomic Alarm Clock:

The clock uses 1 x AA LR6 battery (Alkaline recommended). To set please follow these easy steps:



1. Slide the battery cover downwards as indicated by the triangle to reveal the battery compartment
2. Observing the correct polarisation insert the battery.
3. Replace battery cover.
4. After power-up, the alarm will sound once and all LCD segments will light up briefly.
5. The clock will now start receiving the WWVB time signal and the radio tower icon will start flashing indicating that time reception is being attempted
6. Time reception takes typically about 3-5 minutes with timeout being 10 minutes. If after 10 minutes the WWVB time signal has still not been received, the user should try one of the following two actions:

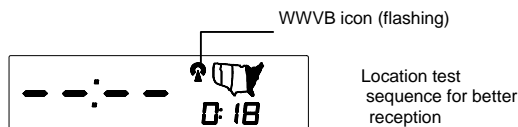
- Reset the unit by removing the battery and proceed from step 2 (above). Should after 10 minutes and the time is still not received the clock will automatically attempt to receive the WWVB time signal two hours later.
- Manually set the time (see “**Manual Time Setting**” below).

**Note:** During the time of power-up (i.e. inserting the battery) **DO NOT** press any of the keys as this will interrupt stop the WWVB time signal reception. If keys are pressed during this stage, then proceed from “**Setting up the Atomic Alarm**” above.

If there is no WWVB signal then the radio tower will not appear on the LCD

When WWVB time reception is successful, the received time will automatically override the manually set time and date. (Please see notes on “**Radio Controlled Time Reception**” and “**Manual Time Setting**”).

**Radio controlled Time Reception:**



During reception, the WWVB tower icon in the LCD will start flashing. This indicates that the WWVB time signal is present and the clock is trying to receive it. At the same time, three digits “000” will appear below the USA map in the LCD to indicate that the time data from the signal source is being de-coding for the time. The digit on the left should randomly display the numbers 0, 1 or 8 for a strong signal. If 0, 1 or 8 are not displayed, then reposition the clock for a better signal.

When the time signal is received, the WWVB tower becomes permanently lit and the time will be displayed.

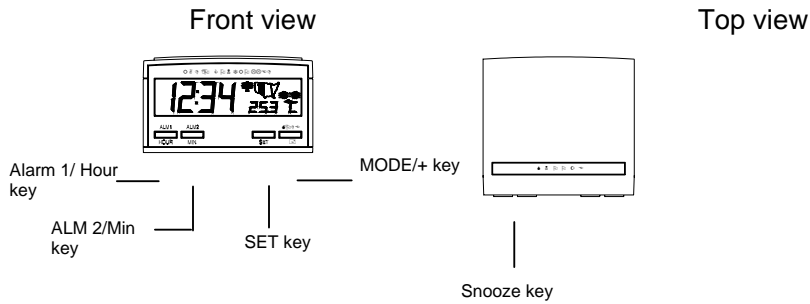
**General Information on WWVB radio controlled time**

NIST Radio Station WWVB is located on the WWVB site near Ft. Collins, Colorado. The WWVB time code is transmitted by the 60 kHz carrier and is broadcast continuously at a rate of 1 pulse per second using pulse width modulation.

The broadcast information includes the year; time intervals; Daylight Saving Time and leap year. The accuracy of the transmitted WWVB signal is better than 1 part in 100 billion ( $1 \times 100^{-11}$ ) and with day to day deviations being less than 5 parts in 1000 billion ( $5 \times 10^{-12}$ ).

## Using the Atomic Alarm Clock:

The clock has five easy to use function keys:



## Using the keys:

- “SET” key:**
- Used to enter the programming mode
  - Used to select and confirm the various setting modes
- “MODE/+” key:**
- Used in setting mode to change/select of all changeable/selectable values and displays
  - Used to toggle between the calendar/seconds/alarm times and temperature reading
- “ALM1/Hour” key:**
- Used to enter the alarm setting mode for Alarm ((1))
  - Used to set Alarm ((1)) ON/OFF (crescendo alarm time is ON when ((1)) is displayed).
- “ALM2/Min key”:**
- Used to enter alarm setting mode for Alarm ((2))
  - Used to set Alarm ((2)) ON/OFF (normal alarm sound time is ON when ((2)) is displayed).
- “Snooze” key:**
- Used to activate the snooze during alarm
  - Used to Display alarm time set for Alarm ((1)) and ((2))
  - Used to exit the setting modes

## Alarm setting mode:

- Press ALM1 or ALM2 keys for 2 seconds to enter the ALM1 or ALM2 setting mode
- Set the alarm hour by pressing “ALM1/HOUR” key
- Set the alarm minutes by pressing “AML2/MIN” key
- Exit Alarm setting mode by pressing the “Snooze” key or automatic timeout (approx. 15 seconds)

**Note: to stop the alarm pressing any key except the “Snooze” key**

## Setting Mode:

Each time the settings are changed (except for alarm times), the following setting modes are entered in sequence by using the “SET” key:

- Time zone setting from Pacific Time(-8h); (Mountain Time (-7h); Central Time (-6h); Eastern Time(-5h) or GMT
- Daylight Saving Time ON/OFF
- Snooze time setting (default 10 minutes)
- Manual Time Setting (hour and minutes)
- Calendar year, month, date, weekday

- 12 or 24 hours time display
- °F or °C indoor temperature display

#### **Time zone setting mode:**

- After pressing the “**SET**” key, the time zone will now start flashing. Use the “**MODE/+**” key to change the Time zone between Pacific Time(-8h); (Mountain Time (-7h); Central Time (-6h); Eastern Time(-5h) or GMT
- The time zone with USA map will only be displayed if time zone selection is between Pacific Time(-8h); (Mountain Time (-7h); Central Time (-6h) and Eastern Time(-5h) and will remain visual after exiting the setting mode. If GMT (zero hours time source) is selected, the GMT icon will remain on the LCD after exiting this mode. To exit, press the “**SET**” key to enter the “**Daylight Saving Time setting**” mode.

#### **Daylight Saving Time setting mode:**

1. Use the “**MODE/+**” key to switch the DST ON/OFF. Automatic switching of summer/winter time will be enable if DST is ON.
2. Now press the “**SET**” key to enter the “**Snooze setting**” mode.

#### **Snooze setting mode (default setting 10 minutes):**

1. The Snooze display will start flashing. Use the “**MODE/+**” key to select the desired snooze interval from 0-59 minutes (snooze function will disable if the minutes are set to “00”)
2. Now press the “**SET**” key to enter the “**Time setting**” mode.

#### **Time setting mode:**

In some cases, the Alarm Clock may not be able to detect the WWVB signal which means the WWVB tower icon will not show at all on the LCD (see **Trouble Shooting**) because it is only visible when the signal is present. To overcome this problem, the time can be manually set for the time being (see **Manual Time Setting** below) by entering the setting mode.

1. Following on from the **Snooze setting mode**, the hour digits will start flashing in the manual time setting mode. Use the “**MODE/+**” key to set the desired hours followed by pressing the “**SET**” key to move to the minutes setting
2. The minute digits will now start flashing. Set the desired minutes by pressing the “**MODE/+**” key followed by pressing the “**SET**” key to move to the “**Year Setting**” mode

#### **Year setting mode:**

1. In the calendar section the year digits will start flashing (default setting year 1999). Select the desired year (from 1999 to 2019) by using the “**MODE/+**” key.
2. Press the “**SET**” key to switch to the “**Month setting**” mode.

#### **Month Setting:**

1. The month digits will start flashing (default setting month is 1). Set the desired month by using the “**MODE/+**” key.
2. Press the “**SET**” key to move to the “**Day setting**” mode.

#### **Day Setting:**

1. The digits for the date will start flashing (Default setting 1). Set the desired date by using the “**MODE/+**” key.
2. Press the “**SET**” key to enter the “**Weekday setting**” mode.

#### **Weekday Setting:**

1. The weekday will start flashing (Default setting MON). Set the desired weekday by using the “**MODE/+**” key.
2. Press the “**SET**” key to enter the “**12/24 hour setting**” mode.

**12/24 hour select mode:**

1. The 12 or 24 hour will start flashing. Choose the desired time display mode by using the “**MODE+**” key
2. Now press the “**SET**” key to enter the “**Indoor temperature selection**” mode.

**Temperature selection mode:**

1. The temperature reading will start flashing. Using the “**MODE/+**” to select the desired temperature display for Celsius = °C or Fahrenheit = °F
2. After selecting the temperature display mode, press the “**SET**” key to exit the programming mode and switch back to normal display.

**Trouble Shooting**

If the WWVB tower icon flashes, but does not set to the WWVB time signal or the tower icon does not appear at all, then please take note of the following:

- Recommended distance to any interfering sources like computer monitors or TV sets is a minimum of 1.5 - 2 meters.
- Within ferro-concrete rooms (basements, superstructures), the received signal is naturally weakened and in extreme cases the signal may not be received. In this case, place the unit close to a window so that it faces in the general direction of the Ft. Collins, Colorado transmitter
- During daytime high levels of interference from other transmitting sources could prevent the WWVB time signal reception. During night-time, atmospheric disturbances are usually less severe and reception is possible in most cases

**Note:** Even if the time has been set manually the Alarm Clock will still try to receive the signal every hour between 12:00 a.m. and 6:00 a.m. local time. If the time signal data is received, it is converted into radio controlled time from atomic clock run by the NIST and then be displayed on the LCD. The received time will automatically override the manually set time and date. When clock is attempting reception, the tower icon on the LCD will start flashing if the WWVB time signal is present. When reception is successful, no more radio signal reception will take place during that day. However if reception has been unsuccessful, the WWVB tower icon will not appear and reception will be attempted the following hour up to 6:00 a.m.

**Care and Maintenance:**

- Extreme temperatures, vibration and shock should be avoided as these may cause damage to the unit and could give inaccurate readings.
- When cleaning the display and casing, use a soft cloth only. Do not use solvents or scouring agents as they may mark the LCD and casing.
- Do not submerge the unit in water.
- Immediately remove any low powered battery to avoid leakage and damage and replace only with a new battery of the recommended size.
- Do attempt to repair a unit. Return it to its original point of purchase for repair by a qualified engineer. Opening and tampering with the unit may invalidate its guarantee
- Do not expose the unit to extreme and sudden temperature changes, this may lead to rapid changes in readings reducing its accuracy

**Battery Change:**

- It is recommended to replace the battery in the Clock on an annual basis to ensure optimum running accuracy
- When replacing the battery cover, ensure that the batteries do not spring free from the contacts as this may cause start up problems.

- Should the low battery icon show on the LCD, the battery will need to be replaced.



**Please participate in the preservation of the environment. Return used batteries to an authorized depot.**

**Specifications:**

Time source	:	WWVB
Time frequency	:	60 kHz
Indoor temperature measuring range:	:	-21.8°F to +156.2°F with 0.1°F resolution (-29.9°C to +69°C with 0.1°C resolution) ("OFL" displayed if outside this range)
Indoor temperature checking interval:	:	every 10 seconds
Power source	:	1 x AA, IEC LR6, 1.5V
Battery life cycle	:	Approximately 12 months (Alkaline batteries recommended)
Dimensions (L x W x H)	:	95 x 90 x 49mm

**Liability Disclaimer**

- The manufacturer and supplier cannot accept any responsibility for any incorrect readings and any consequences that occur should an inaccurate reading take place
- This product is not to be used for medical purposes or for public information
- The specifications of this product may change without prior notice
- This product is not a toy. Keep out of children's reach
- No part of this manual may be reproduced without written consent of the manufacturer

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